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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,733	09/26/2003	Jussi Vepsalainen	875.0126.U1(US)	9447
29683 7590 01/09/2008 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER VO, DON NGUYEN	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/672,733

**Applicant(s)**

VEPSALAINEN ET AL.

**Examiner**

DON N. VO

**Art Unit**

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-29 and 31-35 is/are rejected.
- 7) ☒ Claim(s) 15 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/18/2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-10, 14, 16-25, 29 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hadjichristos (US 2004/0219891; art of record) in view of Tapio (US 2002/0105378).

Regarding claims 1-3, 7-10, 14, 16-18, 22-25, 29, 31-33, and 35, Hadjichristos, as shown in figures 5 and 7-9, teaches polar transceiver wherein the received signal is used to determine the control value for controlling the delay of the amplitude or phase paths in order to compensated for the mismatch between the paths. See also paragraphs [0007], [0011] – [0014], [0034], [0058], [0059], [0063] – [0070], and [0076] – [0083]. Applicant is specifically referenced to paragraphs [0082] and [0083] of Hadjichristos, which he teaches that the delay controller (80) can be implemented in the baseband processor (44 of figure 9). As shown in figure 9, the baseband processor (44) is also receiving the output of the receiver (RX 146) and the baseband processor (44) can perform controlling the delay of the transmitter (30) since the delay controller (80) is now being part of the base processor (44). With respect to the “external test apparatus” as recited in claim 31, the delay controller can be identified as the “external test apparatus” as claimed.

Hadjichristos fails to clearly teach that the transmitted signal can be fed back through the receiver path.

However, Tapio, from the same field of endeavor and as shown in figure 3, teaches a transceiver having the transmitted signal fed back through the

receiver path in order to control the distortion (delay mismatch) in the transmitter path. See also paragraphs [0041] and [0052] - [0056].

Therefore, based on the teaching of Tapio, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Hadjichristos by using the transmitted signal fed back from the receiver (146) since it is just the matter of positioning the delay controller (80) in the baseband processor (44). Such modification will also simplify the complexity of the transmitter circuit (30). Moreover, as shown in figure 9 of Hadjichristos, when the delay controller (80) is implemented in the baseband processor (44), the delay controller (80) must use the transmitted signal fed back from the receiver path (146) in order to provide delay control to the transmitter (30) since there is no signal fed back from the transmitter (30) to the baseband processor (44).

Regarding claims 4-6, 19-21, and 34, Hadjichristos further teaches measuring the Adjacent Channel Leakage Ratio (ACPR). See [0008] and [0012].

5. Claims 11-13 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hadjichristos (US 2004/0219891) in view of Tapio (US 2002/0105378) as applied to claims 1-10, 14, 16-25, 29 and 31-35 above, and further in view of Bourde et al (US 2002/0082792; art of record).

Regarding claims 11-13 and 26-28, Hadjichristos and Tapio teach all subject matter claimed except for the measuring of the BER. See explanation of paragraph 4 above. However, using the BER parameter for compensating

distortion is well known in the art of digital communications. For example, Bourde teaches measuring distortion or system level performance parameter using variety techniques including ACPR and BER. See Bourde: [0005] and [0007].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Hadjichristos and Tapio to also measure the BER so that to enhance the communications since more parameter is used to compensate for distortion.

#### ***Allowable Subject Matter***

6. Claims 15 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-14, 16-29 and 31-35 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference Persson (US 2002/0058486) is cited because it is pertinent delay control in the polar communication systems.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON N. VO whose telephone number is (571) 272-3018. The examiner can normally be reached on Mon-Fri (9:00AM - 6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOHAMMAD GHAYOUR can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DON N. VO  
Primary Examiner  
Art Unit 2611